

## Determination of purity and efficiency of the clustering algorithm of neutron reconstruction with the HGND at the BM@N experiment

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The BM@N is a fixed-target experiment aimed at studying of heavy ion collisions at beam energies up to 4 A GeV. The new Highly Granular Neutron Detector (HGND) is being developed for this experiment. This detector will be able to carry unique measurements of flow of the neutrons. Due to these measurements it will be possible to explore the isospin degree of freedom of the QCD phase diagram.

One of the methods to detect neutrons in highly granular detectors is to merge fired cells into clusters, apply selection criteria to these clusters and reconstruct their energy by the time of flight. This talk is devoted to the determining of the efficiency and purity of neutron reconstruction using such an algorithm. The proposed method is verified by Monte-Carlo simulation.

**Primary author:** SHABANOV, Arseniy (INR RAS)

**Co-authors:** ZUBANKOV, Aleksandr (Institute for Nuclear Research of the Russian Academy of Sciences); GUBER, Fedor (INR RAS, Moscow); GOLUBEVA, Marina (INR RAS); KARPUSHKIN, Nikolay (INR RAS); MOROZOV, Sergey (Institute for Nuclear Research RAS); BOCHARNIKOV, Vladimir (HSE University)

**Presenter:** SHABANOV, Arseniy (INR RAS)

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